WHAT IS CLAIMED IS:

1. A method comprising:

receiving a multi-phase axial cardiac dataset;

receiving a selection of a phase from a user;

when the received selection is systole, generating an endocardial volume of a left ventricle at an end systole phase without further user intervention; and

when the received selection is diastole, generating an endocardial volume of the left ventricle at an end diastole phase without further user intervention.

2. A method in accordance with Claim 1 further comprising:

providing the generated volume to a user for at least one of a verification and an edition of a myocardial contour for the volume;

receiving at least one of an indication of verification by the user and an edit from the user; and

calculating at least one of an end diastolic volume, an end systolic volume, an ejection fraction, a stroke volume, and a cardiac output using the generated endocardial volume of the left ventricle at the end systole phase and the generated endocardial volume of the left ventricle at the end diastole phase without further user intervention.

3. A method in accordance with Claim 1 further comprising calculating an end diastolic volume, an end systolic volume, an ejection fraction, a stroke volume, and a cardiac output using the generated endocardial volume of the left ventricle at the end systole phase and the generated endocardial volume of the left ventricle at the end diastole phase without user intervention.

4. A method in accordance with Claim 1 wherein said receiving a multi-phase axial cardiac dataset comprises receiving a computed tomography (CT) multi-phase axial cardiac dataset.

5. A method in accordance with Claim 1 wherein said receiving a multi-phase axial cardiac dataset comprises receiving a positron emission tomography (PET) multi-phase axial cardiac dataset.

6. A method in accordance with Claim 1 wherein said receiving a multi-phase axial cardiac dataset comprises receiving a magnetic resonance (MR) multi-phase axial cardiac dataset.

7. A method in accordance with Claim 1 wherein said generating an endocardial volume of a left ventricle at an end systole phase without user intervention comprises generating an endocardial volume of a left ventricle at an end systole phase without user intervention, wherein the generated volume excludes a plurality of papillary muscles.

8. A method in accordance with Claim 1 wherein said generating an endocardial volume of a left ventricle at an end systole phase without user intervention comprises generating an endocardial volume of a left ventricle at an end systole phase without user intervention by using at least one of a thresholding tool, a morphological tool, a connectivity tool, an edge detection tool, and a region growing tool.

9. A method in accordance with Claim 8 wherein said generating an endocardial volume of a left ventricle at an end systole phase without user intervention by using at least one of a thresholding tool, a morphological tool, a connectivity tool, an edge detection tool, and a region growing tool comprises using said tools such that a contour of a slice is not smoothed.

10. A method in accordance with Claim 8 wherein said generating an endocardial volume of a left ventricle at an end systole phase without user intervention by using at least one of a thresholding tool, a morphological tool, a connectivity tool, an edge detection tool, and a region growing tool comprises:

generating an endocardial volume of a left ventricle at an end systole phase without user intervention by using a thresholding tool, an edge detection tool, and a region growing tool;

using at least one of a thresholding tool, a morphological tool, a connectivity tool, an edge detection tool, and a region growing tool to segment a contrast within the generated endocardial volume of the left ventricle at the end systole phase from myocardium to volume render the contrast contained within the left ventricle at the end systole phase to generate a to be measured endocardial volume of the left ventricle at the end systole phase; and

measuring the to be measured endocardial volume of the left ventricle at the end systole phase.

11. A method in accordance with Claim 10 further comprising:

providing the to be measured endocardial volume of the left ventricle at the end systole phase to a user for at least one of a verification and an edition of a myocardial contour of the volume prior to said measuring;

receiving at least one of an indication of verification by the user and an edit from the user; and

measuring the to be measured endocardial volume of the left ventricle at the end systole phase to calculate at least one of an end diastolic volume, an end systolic volume, an ejection fraction, a stroke volume, and a cardiac output without further user intervention.

12. A method in accordance with Claim 1 further comprising calculating at least one of an end diastolic volume, an end systolic volume, an ejection fraction, a stroke volume, and a cardiac output using the generated endocardial volume of the left ventricle at the end systole phase and the generated endocardial volume of the left ventricle at the end diastole phase without user intervention.

13. A medical imaging apparatus for generating views of a heart along anatomically useful planes, said medical imaging apparatus comprising:

an imaging system comprising:

a detector array;

at least one radiation source; and

a computer coupled to said detector array source; and

a workstation coupled to said computer, said workstation configured to:

receive a multi-phase axial cardiac dataset from said computer;

receive a selection of a phase from a user;

when the received selection is systole, generate an endocardial volume of a left ventricle at an end systole phase without further user intervention; and

when the received selection is diastole, generate an endocardial volume of the left ventricle at an end diastole phase without further user intervention.

14. An apparatus in accordance with Claim 13 wherein said imaging system comprises a Positron Emission Tomography (PET) system and said radiation source comprises an emission radiation source.

15. An apparatus in accordance with Claim 13 wherein said imaging system comprises a Computed Tomography (CT) system, said radiation source comprises a transmission radiation source, and said computer coupled to said source.

16. An apparatus in accordance with Claim 13 wherein said workstation further configured to calculate at least one of an end diastolic volume, an end systolic volume, an ejection fraction, a stroke volume, and a cardiac output using the generated endocardial volume of the left ventricle at the end systole phase and the generated endocardial volume of the left ventricle at the end diastole phase.

17. An apparatus in accordance with Claim 13 wherein said workstation further configured to:

provide the generated volumes to a user for at least one of a verification and an edition of a myocardial contour for each of the volumes;

receive at least one of an indication of verification by the user and an edit from the user; and

calculate at least one of an end diastolic volume, an end systolic volume, an ejection fraction, a stroke volume, and a cardiac output using the generated endocardial volume of the left ventricle at the end systole phase and the generated endocardial volume of the left ventricle at the end diastole phase without further user intervention.

18. An apparatus in accordance with Claim 13 wherein said workstation further configured to:

generate an endocardial volume of a left ventricle at an end systole phase and a end diastole phase without user intervention by using a thresholding tool, an edge detection tool, and a region growing tool;

use at least one of a thresholding tool, a morphological tool, a connectivity tool, an edge detection tool, and a region growing tool to segment a contrast within the generated endocardial volume of the left ventricle at the end systole phase and the end diastole phase from myocardium to volume render the contrast contained within the left ventricle at the end systole phase and the end diastole phase to generate a to be measured endocardial volume of the left ventricle at the end systole phase and a to be measured endocardial volume of the left ventricle at the end diastole phase; and

measure the to be measured endocardial volume of the left ventricle at the end systole phase and to be measured endocardial volume of the left ventricle at the end diastole phase.

19. A computer readable medium encoded with a program executable by a computer for generating views of a heart along anatomically useful planes, said program configured to instruct the computer to:

receive a multi-phase axial cardiac dataset;

receive a selection of a phase;

when the received selection is systole, generate an endocardial volume of a left ventricle at an end systole phase without further input; and

when the received selection is diastole, generate an endocardial volume of the left ventricle at an end diastole phase without further input.

20. A computer readable medium in accordance with Claim 19 wherein aid program further configured to instruct the computer to calculate at least

one of an end diastolic volume, an end systolic volume, an ejection fraction, a stroke volume, and a cardiac output using the generated endocardial volume of the left ventricle at the end systole phase and the generated endocardial volume of the left ventricle at the end diastole phase.